

REMARKS/ARGUMENTS

Claims 1-34 are pending in the present application. Claims 1, 27, 30 and 33 have been amended herein, and no claims have been cancelled. New claims 35 and 36 have been added. Therefore, after entry of the foregoing claim amendments, claims 1-36 will be pending in this application.

Applicants believe that the present application is now in condition for allowance, which prompt and favorable action is respectfully requested.

Claim Rejections – 35 USC § 102

Claims 1-5, 7-8, 12-14, 17-22 and 27-34 are rejected under 35 USC § 102(e), as being anticipated by Kowalewski (U.S. Patent No. 7,155,165). The rejections are respectfully traversed and reconsideration is requested. The following is a comparison between embodiments of the present invention and the cited art.

Independent claim 1 recites deriving a first channel estimate for the wireless channel based on received symbols; performing detection for the first data stream using the first channel estimate; deriving a second channel estimate based on the detected first data stream; deriving a third channel estimate based on the first and second channel estimates; and performing detection for the second data stream using the third channel estimate. According to embodiments of the present invention as recited in independent claim 1, first and second data streams are transmitted simultaneously, and thereafter the first data stream (*e.g.*, the base stream) is detected using the first channel estimate. A subsequent second channel estimate is derived, and the first and second channel estimates are combined, thereby deriving a third channel estimate. Detection is then performed using the third channel estimate to detect the second data stream (*e.g.*, the enhancement stream). (See paragraphs [0006] and [0007] of the present specification).

The joint data detections and channel estimation algorithm, according to aspects of the present invention, may be used in the case of simultaneous hierarchical transmission of a base stream and an enhancement stream, where the enhancement stream may be processed only by a subset of receivers having a high SINR.

The Examiner cites column 3, lines 13-18, column 7, lines 38-41, column 6, lines 27-38, and column 4, lines 41-47, of Kowalewski as disclosing the aforementioned features of independent claim 1. Kowalewski is directed to a method for transmitting signals between first

and second radio stations in which the influence of amplitude fluctuations or fading can be reduced. (Abstract). The cited portions of Kowalewski disclose transmission of a first radio channel 20 and a second radio channel 25 to a transceiver. An estimate of the impulse response of the first radio channel 20 is derived from a first channel estimator 11, and an estimate of the impulse response of a second radio channel 25 is derived from a second channel estimator 12. Pre-equalization of a signal to be broadcast by a first antenna 50 is performed in a modulator 4 as a function of the estimate of the impulse response of the first radio channel 20 and the estimate of the impulse response of the second radio channel 25. (See column 7, lines 15-41, of Kowalewski). On the receiver side, the two channels are added by addition member 80 and individual signals may be derived. (See column 6, lines 27-38, of Kowalewski).

However, Kowalewski fails to teach or suggest that the second data stream is an enhancement stream of the first data stream, as recited in amended independent claim 1, for example. Kowalewski does not teach or suggest a hierarchical transmission scheme, where a base stream (*i.e.*, a first data stream) is transmitted simultaneously with an enhancement stream (*i.e.*, a second data stream) of the base stream.

Therefore, it is respectfully submitted that independent claim 1 patentably distinguishes over the cited reference. The remaining independent claims, as amended, recite features substantially similar to those described above with respect to independent claim 1. Thus, it is further submitted that all independent claims, as well as the pending dependent claims, patentably distinguish over Kowalewski for at least the reasons provided herein.

Claim Rejections – 35 USC § 103

Claims 6 and 9-11 are rejected under 35 USC § 103(a), as being unpatentable over Kowalewski in view of Cioffi et al. (U.S. Patent No. 5,995,567) (hereinafter “Cioffi”). The rejections are respectfully traversed and reconsideration is requested.

Dependent claims 6 and 9-11 depend directly or indirectly from independent claim 1, which patentably distinguishes over the Kowalewski for the foregoing reasons. It is further submitted that Cioffi fails to cure the deficiencies of Kowalewski set forth above. Therefore, it is respectfully submitted that dependent claims 6 and 9-11 patentably distinguish over the cited references alone or in combination

Claims 15, 16 and 23-26 are rejected under 35 USC § 103(a), as being unpatentable over Kowalewski and Cioffi in view of Isaksson et al. (U.S. Patent No. 6,181,714) (hereinafter "Isaksson"). The rejections are respectfully traversed and reconsideration is requested.

Dependent claims 15, 16 and 23-26 depend directly or indirectly from independent claim 1, which patentably distinguishes over the Kowalewski for the foregoing reasons. It is further submitted that Cioffi and Isaksson fail to cure the deficiencies of Kowalewski set forth above. Therefore, it is respectfully submitted that dependent claims 15, 16 and 23-26 patentably distinguish over the cited references alone or in combination.

New Independent Claims 35 and 36

New independent claims 35 and 36 recite features substantially similar to those described above with reference to independent claim 1. (Support can be found throughout the application, particularly in paragraphs [0077] and [0078]). Thus, new claims 35 and 36 are submitted to be patentable for at least the same reasons provided herein for independent claim 1.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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